

**PROJECT NATURE NEWSLETTER**

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**OCTOBER, 2018 ISSUE**

# Events

## Sunset Lake Watch and Campfire

*Prairie Oaks Darby Bend Metro Park*

6th October 6:30 pm - 8:00 pm

Watch the sunset over the lake while listening for frogs signing, look for bats flying and beaver swimming

## Seed Eating Birds

*Blendon Woods Metro Park*

7th October 8:00 am - 9:00 am

Take a 2-mile hike to search for seed-eating birds that are migrating

## Darby Creek Day

*Battelle Darby Creek Metro Park - Indian Ridge*

7th October 1:00 pm - 4:00 pm

Enjoy fly-fishing, canoeing, seining, noodling for mussels and more

## Buzzard's Roost Backcountry Hike

*Clear Creek Metro Park - Park Office*

13th October 10:00 am - 12:30 pm

Experience Fall colors in Clear Creek valley on a rugged 3-mile hike

## Fall Stargazing

*Glacier Ridge Metro Park*

13th October 7:00 pm - 9:00 pm

See planets and constellations using telescopes and binoculars

## Outdoor Exploration Expo

*Camp Lazarus, 4422 Columbus Pike, Delaware*

13th October 10:00 am - 5:00 pm

Join Preservation Parks to have a fun day of free outdoor discovery with activities such as trail run, paddle boarding and kayaking, bass fishing, archery, boomerang demonstration and much more

## Bison Bison

*Battelle Darby Metro Park*

14th October 1:00 pm - 2:00 pm

Not a cow, not a buffalo, it's a bison! Take a 1-mile hike to see and learn about these magnificent 2000 lb mammals

## Geology of the Ridge

*Chestnut Ridge Metro Park*

14th October 1:00 pm - 2:30 pm

Join geologists from Ohio Geological Survey for a 1.5-mile hike to explore the Blackhand Sandstone on the edge of the Appalachian Plateau

## Rugged Rock Walk

*Clear Creek Metro Park - Park Office*

14th October 1:00 pm - 4:30 pm

Join ODNR hydrogeologists for a 4-mile rugged backcountry hike highlighting water resources and geologic features at the Clear Creek

## Energy and Environment Film Series

*CBEC Building, OSU. 151 W.Woodruff Ave Columbus*

15th, 22nd, 29th October 7:00 pm - 8:50 pm

Watch compelling environment documentary films, followed by discussion with leading experts

## Geology and Fossils of Highbanks

*Highbanks Metro Park*

20th October 10:00 am - 12:00 pm

Join geologists from Ohio Geological Survey for a talk and a 2.6-mile hike to learn about the rocks and fossils of the Highbanks Metro Park

## Creature Feature: Nighttime Critters

*Sharon Woods Metro Park*

20th October 7:00 pm - 8:00 pm

Take a 1-mile hike and learn about the park's nocturnal inhabitants

## Bat Hike

*Shale Hollow Preservation Park*

24th October 6:15 pm - 8:00 pm

Take a 1.5-mile to sight bats - visually as well as using state-of-the-art echolocation instruments

Contact: [Ineroni@preservationparks.com](mailto:Ineroni@preservationparks.com)

## Weekly Bird Hike

*Scioto Audobon Metro Park - Grange Insurance Audobon Center*

6th, 13th, 20th, 27th October 10:00 am - 11:30 am

Hike with experienced birders to find and learn about birds (Binoculars and field guides can be provided)

# Bats

Bats are the only mammals capable of true flight! (Flying Squirrels can't really fly. They merely glide through air, or as Woody would tell Buzz Lightyear "it's not flying; it's falling with style"!). There are well over 1,000 species of bats worldwide, and make up one-fifth of all mammals. In Ohio, there are 13 species of bats, all of which are insectivores.

A subgroup of bats are capable of echolocation - the navigation technique involving the use of ultrasound waves. These bats are rather small in size and are mostly insectivores. The other group of bats are larger in size, such as fruit bats and flying foxes with wingspan of the largest species exceeding 5 ft., but incapable of echolocation.

Bats have been flying on this planet for 50 million years. Most bats hang upside down, and their feet have evolved to be relaxed in clenched position. Like every other animal, bats serve an important role in the ecosystem. Most bats (70% of them) are insectivores, which means they eat insects, and hence are major contributors to natural pest control. Bat species feeding on nectar are important pollinators, and fruit-eating bats are an important contributor of seed dispersal. Additionally, bat droppings are rich in potassium nitrate (saltpeter), often used as fertilizer. Saltpeter could also be extracted for use in gunpowder and explosives, and was a major resource for that purpose during the American Civil War.



d'Orbigny's round-eared bat  
D'Orbigny's round-eared bat (*Tonatia silvicola*) capturing a katydid in flight.  
© Merlin D. Tuttle, Bat Conservation International/Photo Researchers, Inc.

## "My Bad" - Misconceptions About Bats

- Bats are not rodents. Primates (which includes us, humans) are more closely related to rodents than bats!
- Bats aren't blind. While some species of bats might have a relatively poor eyesight, no known species of bats are blind. Other bats have well-developed vision such that they can detect color at night, making their vision better than that of humans.
- As for their association with vampires, there are only 3 species of bats that feed on blood, and most of those target birds.
- There are only 1-2 cases of rabies transmitted by bats to humans in the US per year, which is not a statistic that qualifies them to be labeled as carriers of diseases. According to Ohio Administrative Code, it's against the law to kill bats, unless there has been an exposure to a disease.



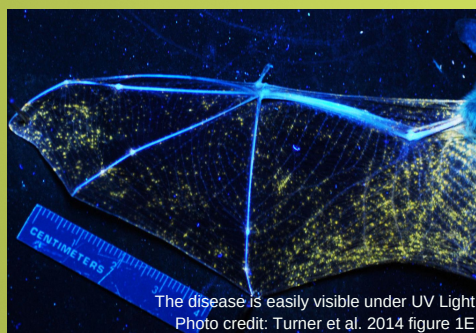
# White Nose Syndrome

To survive winter, some species of bats migrate, others slow down their metabolism by means of a mechanism known as torpor - regulated hypothermia that could last from a few hours to a few months (in which case it's more commonly known as hibernation). Bats find shelter in caves, abandoned mines, tree cavities and buildings.

North American bats using caves as their *hibernacula* (place where animals gather to hibernate) have become extremely vulnerable to a new foreign threat. White-Nose Syndrome (WNS) is an infection caused by a cold-loving fungus called Pd (*Pseudogymnoascus destructans*) that thrives in the cave environment. The fungus is native to Europe and was accidentally brought to the US in 2006 through the boots of a spelunker who had recently visited a cave in Europe. The fungus causes a physiological change in the bats that disrupts their torpor cycle and they continue to remain active during winter, thus exhausting their fat and energy reserve, ultimately dying due to starvation or dehydration. Though not known to affect humans, WNS has claimed lives of millions of bats in North America since 2006.



Little Brown Bat infected with WNS  
Photo credit: Marvin Moriarty/USFWS



The disease is easily visible under UV Light  
Photo credit: Turner et al. 2014 figure 1E

Of the 7 North American species most heavily impacted by WNS, the two Ohioan species are the Little Brown Bat and the Big Brown Bat. Since European bats co-evolved with the Pd fungus over thousands of years, they developed immunity against the fungus.

The other bad news is that bats have a very low reproductive rate, with most bats producing just one pup a year. So, it becomes even more difficult to recover for the impacted population.

## Hope

Researchers are working tirelessly to find a cure for the disease and there's some silver lining. A common soil bacterium *Rhodococcus rhodochrous* has been found to prevent the fungus from growing. Other research groups are adapting AIDS treatment to combat the effects of the fungus by boosting the immune responses of the bats. However, extensive testing will be required before any such antidote could be introduced in the caves to make sure that the foreign substance is not disruptive to the delicate cave-ecosystem. In the meantime, artificial caves such as abandoned mines or abandoned railroad tunnels could be inoculated against Pd.



### Fun Fact

The most common Ohio species, the Little Brown Bat typically captures an insect every 7 seconds, and a summer colony of 1,000 bats can consume 4.5 million insects in one night!

### Not-so-Fun Fact

A study conducted in 2010 suggested that if the current rate at which the bats are succumbing to WNS continues, the Little Brown Bat will become extinct in 16 years (which means only 8 years left now).

### Bat Week

This year, Oct 24 - 31 is being celebrated as the Bat Week. Bat Week is an annual, international block of programs and media appearances designed to raise awareness for bat conservation worldwide. Bat Week is organized and supported by several organizations including National Parks Service, US Forest Service, US Fish and Wildlife Services, etc.

Visit [BatWeek.org](http://BatWeek.org) and see how you could get involved!

You can also join for a Bat Hike at Shale Hollow Preservation Park to find and learn more about bats on Oct 24 at 6:15 PM.